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Docket No. STUC-001

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4

APPLICATION

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FOR UNITED STATES LETTERS PATENT

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SPECIFICATION

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18 TO ALL WHOM IT MAY CONCERN:

19

20 BE IT KNOWN THAT I, **Matthew R. Stucke**, a citizen of the United States,

21 have invented a new and useful athletic shoe protection system of which the following

22 is a specification:

23

Athletic Shoe Protection System

CROSS REFERENCE TO RELATED APPLICATIONS

Not applicable to this application.

**STATEMENT REGARDING FEDERALLY
SPONSORED RESEARCH OR DEVELOPMENT**

Not applicable to this application.

BACKGROUND OF THE INVENTION

Field of the Invention

21 The present invention relates generally to shoe protective devices and more
22 specifically it relates to an athletic shoe protection system for effectively protecting the
23 cleats and spikes of athletic shoes while worn by an athlete.

1 **Description of the Related Art**

2

3 Athletic shoes with gripping members (e.g. cleats and spikes) have been in use
4 for years. The gripping members are typically sharpened metal structures that provide
5 added traction upon ground and track surfaces.

6

7 However, if the athlete walks upon a hard surface such as concrete, pavement
8 and the like, the gripping members become damaged. In addition, the gripping
9 members may cause damage to flooring and other surfaces. Also, the gripping
10 members are relatively slippery and unstable when utilized upon a hard surface.

11

12 One conventional type of shoe protection device are rubber overshoes, but they
13 are not suitable for usage upon athletic shoes with sharpened gripping members for
14 obvious reasons. U.S. Patent Nos. 1,340,356 and 3,283,424 provide examples of
15 patented technologies that attempt to solve this problem. However, these products are
16 not designed to fit with various shoe designs and gripping member
17 sizes/patterns/shapes. Hence, there is a need for a product that will conform to various
18 types of athletic shoes.

19

20 While these devices may be suitable for the particular purpose to which they
21 address, they are not as suitable for effectively protecting the cleats and spikes of
22 athletic shoes while worn by an athlete. Conventional shoe protection devices are not
23 suitable for usage upon various designs of athletic shoes.

24

25 In these respects, the athletic shoe protection system according to the present
26 invention substantially departs from the conventional concepts and designs of the prior
27 art, and in so doing provides an apparatus primarily developed for the purpose of
28 effectively protecting the cleats and spikes of athletic shoes while worn by an athlete.

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2 **BRIEF SUMMARY OF THE INVENTION**

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4 In view of the foregoing disadvantages inherent in the known types of shoe
5 protective devices now present in the prior art, the present invention provides a new
6 athletic shoe protection system construction wherein the same can be utilized for
7 effectively protecting the cleats and spikes of athletic shoes while worn by an athlete.

8

9 The general purpose of the present invention, which will be described
10 subsequently in greater detail, is to provide a new athletic shoe protection system that
11 has many of the advantages of the shoe protective devices mentioned heretofore and
12 many novel features that result in a new athletic shoe protection system which is not
13 anticipated, rendered obvious, suggested, or even implied by any of the prior art shoe
14 protection devices, either alone or in any combination thereof.

15

16 To attain this, the present invention generally comprises a thermoplastic layer
17 attached to a foam layer. The insert member is formed to be inserted within a sandal
18 member. The user heats the thermoplastic layer to a soft state and then presses the
19 gripping members of an athletic shoe into the thermoplastic layer and the foam layer
20 which conform to the gripping members creating recessed portions. The user then
21 allows the thermoplastic layer to cool into a hard state and then inserts the insert
22 member into a sandal member. The user may then insert the athletic shoe into the
23 sandal member with the gripping members fitting within the recessed portions of the
24 thermoplastic layer.

25

26 There has thus been outlined, rather broadly, the more important features of the
27 invention in order that the detailed description thereof may be better understood, and
28 in order that the present contribution to the art may be better appreciated. There are
29 additional features of the invention that will be described hereinafter and that will form

1 the subject matter of the claims appended hereto.

2

3 In this respect, before explaining at least one embodiment of the invention in
4 detail, it is to be understood that the invention is not limited in its application to the
5 details of construction and to the arrangements of the components set forth in the
6 following description or illustrated in the drawings. The invention is capable of other
7 embodiments and of being practiced and carried out in various ways. Also, it is to be
8 understood that the phraseology and terminology employed herein are for the purpose
9 of the description and should not be regarded as limiting.

10

11 A primary object of the present invention is to provide an athletic shoe
12 protection system that will overcome the shortcomings of the prior art devices.

13

14 A second object is to provide an athletic shoe protection system for effectively
15 protecting the cleats and spikes of athletic shoes while worn by an athlete.

16

17 Another object is to provide an athletic shoe protection system that protect shoe
18 gripping members such as but not limited to cleats and spikes.

19

20 A further object is to provide an athletic shoe protection system that extends the
21 life of shoe gripping members.

22

23 Another object is to provide an athletic shoe protection system that allows an
24 athlete to retain their athletic shoes on their feet without having to change the same.

25

26 An additional object is to provide an athletic shoe protection system that that
27 may be utilized upon various shapes, sizes and designs of shoes.

28

1 An additional object is to provide an athletic shoe protection system that may
2 be easily assembled by a consumer.

3

4 A further object is to provide an athletic shoe protection system that provides
5 added traction when upon hard surfaces.

6

7 A further object is to provide an athletic shoe protection system that may be
8 utilized with respect to various shoe gripping member designs, patterns, shapes and
9 sizes.

10

11 Another object is to provide an athletic shoe protection system that allows a
12 universal fit to most athletic shoes.

13

14 Other objects and advantages of the present invention will become obvious to the
15 reader and it is intended that these objects and advantages are within the scope of the
16 present invention.

17

18 To the accomplishment of the above and related objects, this invention may be
19 embodied in the form illustrated in the accompanying drawings, attention being called
20 to the fact, however, that the drawings are illustrative only, and that changes may be
21 made in the specific construction illustrated and described within the scope of the
22 appended claims.

1

2 **BRIEF DESCRIPTION OF THE DRAWINGS**

3

4 Various other objects, features and attendant advantages of the present
5 invention will become fully appreciated as the same becomes better understood when
6 considered in conjunction with the accompanying drawings, in which like reference
7 characters designate the same or similar parts throughout the several views, and
8 wherein:

9

10 FIG. 1 is a flowchart illustrating the overall operation of the present invention.

11

12 FIG. 2 is an upper perspective view of the insert member.

13

14 FIG. 3 is a cross sectional view taken along line 3-3 of Figure 2.

15

16 FIG. 4 is an upper perspective view of the insert member with a heater unit
17 applying heat to the thermoplastic layer.

18

19 FIG. 5 is an upper perspective view of the shoe with gripping member being
20 applied to the heated thermoplastic layer.

21

22 FIG. 6a is an upper perspective view of the shoe with gripping member being
23 removed from the thermoplastic layer.

24

25 FIG. 6b is a cross sectional view taken along line 6b-6b of Figure 6a illustrating
26 the recessed portions.

27

28 FIG. 6c is a cross sectional view illustrating the gripping members positioned
29 within the recessed portions.

1

2 FIG. 7 is a top view of the insert member with the created recessed portions and
3 the sandal member.

4

5 FIG. 8 is an upper perspective view of the insert member being inserted into the
6 sandal member.

7

8 FIG. 9 is an upper perspective view of the shoe being inserted into the sandal
9 member on top of the insert member.

10

11 FIG. 10 is an upper perspective view of the shoe inserted into the sandal
12 member on top of the insert member.

13

14 FIG. 11 is a top view of the shoe inserted into the sandal member on top of the
15 insert member.

16

17 FIG. 12 is a side view of the shoe inserted into the sandal member on top of the
18 insert member.

1

2 **DETAILED DESCRIPTION OF THE INVENTION**

3

4 *A. Overview*

5 Turning now descriptively to the drawings, in which similar reference
6 characters denote similar elements throughout the several views, FIGS. 1 through 12
7 illustrate an athletic shoe protection system **10**, which comprises a thermoplastic layer
8 **30** attached to a foam layer **40**. The insert member **20** is formed to be inserted within a
9 sandal member **50**. The user heats the thermoplastic layer **30** to a soft state and then
10 presses the gripping members **14** of an athletic shoe **12** into the thermoplastic layer **30**
11 and the foam layer **40** which conform to the gripping members **14** creating recessed
12 portions **32**. The user then allows the thermoplastic layer **30** to cool into a hard state
13 and then inserts the insert member **20** into a sandal member **50**. The user may then
14 insert the athletic shoe **12** into the sandal member **50** with the gripping members **14**
15 fitting within the recessed portions **32** of the thermoplastic layer **30**.

16

17 *B. Sandal Member*

18 As shown in Figures 7 through 10 of the drawings, a sandal member **50** is
19 provided for receiving the insert member **20** and the shoe **12**. The sandal member **50**
20 may have various structures, shapes and designs as are commonly utilized within the
21 sandal industry.

22

23 The sandal member **50** includes a resilient sole **52** with a bottom surface for
24 safely and comfortably gripping a surface. The sandal member **50** also preferably
25 includes a rear lip **54** extending upwardly from a rear end of the resilient sole **52** for
26 assisting in retaining the insert member **20** within the sandal member **50** as best shown
27 in Figures 8 and 9 of the drawings.

28

1 The sandal member **50** has a securing structure for removably receiving and
2 securing the shoe **12**. The securing structure is preferably comprised of at least a rear
3 strap **56** and a front strap **58** as shown in Figures 7 through 10 of the drawings.

4

5 The rear strap **56** and the front strap **58** preferably utilize a fastener such as a
6 buckle, hook and loop fastener, buttons, elastic and the like to secure the shoe **12**
7 within the sandal member **50**. It can be appreciated that various other structures may
8 be utilized to secure the shoe **12** within the sandal member **50**.

9

10 **C. Insert Member**

11 An insert member **20** is provided that is positionable within the upper surface of
12 the resilient sole **52** of the sandal member **50** as shown in Figures 2 through 9 of the
13 drawings. The insert member **20** is formed to the shape of the sandal member **50** as
14 best shown in Figure 7 of the drawings. The insert member **20** is formed for receiving
15 the gripping members **14** (e.g. cleats, spikes, etc.) of a shoe **12**.

16

17 The insert member **20** has a thermoplastic layer **30** attached to a foam layer **40**
18 as best shown in Figures 2 and 3 of the drawings. The thermoplastic layer **30** enters a
19 soft state when heated for receiving a plurality of gripping members **14** from a shoe **12**
20 thereby forming recessed portions **32** within the insert member **20**. The thermoplastic
21 layer **30** may be comprised of various types of thermoplastic materials that enter a soft
22 state when heated and that enter a hard state when cooled.

23

24 The insert member **20** is preferably removably positioned within the sandal
25 member **50** for allowing interchanging of the insert member **20** for various shoes **12**.
26 However, the insert member **20** may be temporarily or permanently secured within the
27 sandal member **50**. Various attachment structures may be utilized to secure the insert
28 member **20** within the sandal member **50**.

29

1 The foam layer **40** is preferably comprised of a resilient foam material which
2 may or not be sensitive to heat. The foam layer **40** provides a cushion for the shoe **12**
3 and also provides a structure for receiving the recessed portions **32** formed from the
4 gripping members **14**. The foam layer **40** is preferably comprised of a T-foam material
5 which is malleable when heated, however various other types of foam materials may be
6 utilized for the foam layer **40**.

7

8 **D. Operation of Invention**

9 In use, the user first heats the thermoplastic layer **30** of the insert member **20**
10 with a heater unit such as but not limited to a blow dryer as shown in Figures 1 and 4
11 of the drawings. After the thermoplastic layer **30** has entered into a soft state, the user
12 then presses the shoe **12** with the gripping members **14** downwardly and centrally upon
13 the insert member **20** as shown in Figures 1 and 5 of the drawings. The user applies a
14 force required to force the gripping members **14** into the thermoplastic layer **30** and
15 into the foam layer **40** thereby creating recessed portions **32**.

16

17 The user then may leave the shoe **12** upon the insert member **20** until the
18 thermoplastic layer **30** has cooled or remove before fully cooling the insert member **20**
19 as shown in Figure 6a of the drawings. The recessed portions **32** have the shape of the
20 gripping members **14** and extend downwardly a distance corresponding to each of the
21 gripping members **14** as shown in Figures 6a through 6c of the drawings.

22

23 After the thermoplastic layer **30** has fully hardened (or before), the user then
24 positions the insert member **20** into the sandal member **50** as shown in Figure 8 of the
25 drawings. After the insert member **20** is properly positioned within the sandal member
26 **50**, the user then inserts the shoe **12** into the sandal member **50** on top of the insert
27 member **20**, wherein the gripping members **14** of the shoe **12** are received by the
28 recessed portions **32** as shown in Figures 9 and 10 of the drawings.

29

1 The user then properly secures the front strap **58** and the rear strap **56** of the
2 sandal member **50** thereby retaining the shoe **12** within the sandal member **50** in a
3 secure state. The user is then able to walk or run with the gripping members **14** fully
4 protected from the ground surface.

5

6 As to a further discussion of the manner of usage and operation of the present
7 invention, the same should be apparent from the above description. Accordingly, no
8 further discussion relating to the manner of usage and operation will be provided.

9

10 With respect to the above description then, it is to be realized that the optimum
11 dimensional relationships for the parts of the invention, to include variations in size,
12 materials, shape, form, function and manner of operation, assembly and use, are
13 deemed to be within the expertise of those skilled in the art, and all equivalent
14 structural variations and relationships to those illustrated in the drawings and
15 described in the specification are intended to be encompassed by the present invention.

16

17 Therefore, the foregoing is considered as illustrative only of the principles of
18 the invention. Further, since numerous modifications and changes will readily occur to
19 those skilled in the art, it is not desired to limit the invention to the exact construction
20 and operation shown and described, and accordingly, all suitable modifications and
21 equivalents may be resorted to, falling within the scope of the invention.